

IN THE CLAIMS:

Claims 1, 5, 7-10, 13-14, 16, and 18-26 are pending in this application. Please amend claims 1, 5, 7-10, 13, 19-20 and 23, and add new claims 24-26 as follows:

1. (Currently Amended) A composition for removing residues from the microstructure of an object comprising:
  - carbon dioxide;
  - an additive for removing the residues comprising a fluoride having a formula  $\text{NR}_1\text{R}_2\text{R}_3\text{R}_4\text{F}$ , where each of  $\text{R}_1$ ,  $\text{R}_2$ ,  $\text{R}_3$ , and  $\text{R}_4$  ~~are each independently is~~ an alkyl group, and a basic compound including a quaternary ammonium hydroxide; and
  - a co-solvent for dissolving said additive in said  $\text{CO}_2$  at a pressurized fluid condition, wherein at least said carbon dioxide is in a supercritical state so as to maintain the composition ~~combining~~ comprising said carbon dioxide, said additive and said co-solvent as a single composition, and
  - wherein weights percents of said carbon dioxide, said additive and said co-solvent are such that the composition comprising said carbon dioxide, said additive and said co-solvent effectively penetrates the microstructure.
- 2-4. (Canceled).
5. (Currently Amended) A composition for removing residues from the microstructure of an object comprising:
  - carbon dioxide,
  - a compound having a hydroxyl group,
  - a fluoride having a formula  $\text{NR}_1\text{R}_2\text{R}_3\text{R}_4\text{F}$ , where each of  $\text{R}_1$ ,  $\text{R}_2$ ,  $\text{R}_3$ , and  $\text{R}_4$  ~~are each independently or is~~ an alkyl group, and
  - a basic compound including a quaternary ammonium hydroxide, and
  - a co-solvent for dissolving said additive in said  $\text{CO}_2$  at a pressurized fluid condition,
  - wherein at least said carbon dioxide is in a supercritical state so as to maintain the composition ~~combining~~ comprising said carbon dioxide, said additive and said co-solvent as a single composition, and

wherein weight percents of said carbon dioxide, said additive and said co-solvent are such that the composition comprising said carbon dioxide, said additive and said co-solvent effectively penetrates the microstructure.

6. (Canceled).
7. (Currently Amended) The composition of claim 5 wherein the basic compound is selected from a mixture of the ~~quatenary~~ quaternary ammonium hydroxide with an alkylamine, an alkanolamine, and a hydroxylamine.
8. (Currently Amended) The composition of claim 5, wherein the ~~further comprising a~~ co-solvent is selected from dimethylacetamide, propylene glycol, dimethylsulfoxide, deionized water, acetic acid, and mixtures thereof.
9. (Currently Amended) The composition of claim ~~[[8]]~~5, wherein the co-solvent comprises deionized water.
10. (Currently Amended) The composition of claim ~~[[8]]~~5, wherein the co-solvent does not include water.
- 11-12. (Canceled).
13. (Currently Amended) The composition of claim 5 wherein the fluoride is selected from tetramethylammoniumfluoride, tetraethylammonium-fluoride, tetrabutylammoniumfluoride, tetrapropylammoniumfluoride, ~~choline~~ chlorines fluoride, and mixtures thereof.
14. (Original) The composition of claim 5 wherein the compound is selected from ethanol, methanol, n-propanol, isopropanol, n-butanol, iso-butanol, diethyleneglycolmonomethylether, diethyleneglycolmonoethylether, hexafluoro-isopropanol, and mixtures thereof.
15. (Canceled)

16. (Previously Presented) The composition of claim 19 wherein the additive is dissolved within the co-solvent.
17. (Canceled)
18. (Previously Presented) The composition of claim 19 wherein the residues are at least one selected from photoresist, UV-hardened resist, X-ray hardened resist, ashed resists, carbon-fluorine containing polymer, plasma etch residues, organic process contaminants, and inorganic process contaminants.
19. (Currently Amended) A composition for removing residues from the microstructure of an object comprising:
- carbon dioxide wherein the carbon dioxide is in a pressurized or a supercritical fluid state;
  - an additive comprising a fluoride having a formula  $NR_1R_2R_3R_4F$ , where each of  $R_1$ ,  $R_2$ ,  $R_3$ , and  $R_4$  are each independently is an alkyl group, and mixtures thereof and a basic compound including a quaternary ammonium hydroxide; and
  - a co-solvent selected from an alcohol, dimethylacetamide, propylene glycol, dimethylsulfoxide, deionized water, acetic acid, acetone, ethanol, propanol, dimethylformamide, N-methyl-2-pyrrolidone, diethylene glycol methyl ether, and mixtures thereof,
- wherein at least said carbon dioxide is in a supercritical state so as to maintain the composition ~~combining~~ comprising said carbon dioxide, said additive and said co-solvent as a single composition, and
- wherein weight percents of said carbon dioxide, said additive and said co-solvent are such that the composition comprising said carbon dioxide, said additive and said co-solvent effectively penetrates the microstructure.
20. (Currently Amended) A composition for removing residues from the microstructure of an object comprising:
- from 0.001 to 8 weight percent of an additive comprising a fluoride having a formula  $NR_1R_2R_3R_4F$ , where each of  $R_1$ ,  $R_2$ ,  $R_3$ , and  $R_4$  are each independently is an

alkyl group, and mixtures thereof and a basic compound including a quaternary ammonium hydroxide;

from 1 to 50 weight percent of a co-solvent selected from an alcohol, dimethylacetamide, propylene glycol, dimethylsulfoxide, deionized water, acetic acid, acetone, ethanol, propanol, dimethylformamide, N-methyl-2-pyrrolidone, diethylene glycol methyl ether, and mixtures thereof; and

carbon dioxide, wherein at least said carbon dioxide is in a supercritical state so as to maintain the composition ~~combining~~ comprising said carbon dioxide, said additive and said co-solvent as a single composition.

21. (Previously Presented) The composition of claim 20 wherein the additive further comprises methane.
22. (Previously Presented) The composition of claim 20 wherein the additive further comprises a surfactant having a CF<sub>x</sub> group.
23. (Currently Amended) A composition for removing residues from the microstructure of an object comprising:
  - carbon dioxide;
  - an additive for removing the residues comprising a fluoride having a formula NR<sub>1</sub>R<sub>2</sub>R<sub>3</sub>R<sub>4</sub>F, where R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, and R<sub>4</sub> are each independently a hydrogen or an alkyl group, and a quaternary ammonium hydroxide; and
  - a co-solvent for dissolving said additive in said CO<sub>2</sub> at a pressurized fluid condition, wherein at least said carbon dioxide is in a supercritical state so as to maintain the composition ~~combining~~ comprising said carbon dioxide, said additive and said co-solvent as a single composition, and  
wherein weight percents of said carbon dioxide, said additive and said co-solvent are such that the composition comprising said carbon dioxide, said additive and said co-solvent effectively penetrates the microstructure.
24. (New) The composition of claim 1, wherein an amount of the additive is from 0.001 to 8 weight percent and an amount of the co-solvent is from 1 to 50 weight percent.

25. (New) The composition of claim 5, wherein an amount of the additive is from 0.001 to 8 weight percent and an amount of the co-solvent is from 1 to 50 weight percent.
26. (New) The composition of claim 19, wherein an amount of the additive is from 0.001 to 8 weight percent and an amount of the co-solvent is from 1 to 50 weight percent.